

Hitachi handles.

Hitachi handles in all sorts of ways large loads, small loads. And all loads in between. Take our container cranes, for example. They have a built-in stabilizer that steadies a load and lets it down easy. And special control systems that allow unmanned operation because movements are computerized. Or take our other material handling equipment. It handles too.

Transfer cranes. Hitachi transfer cranes roll on rails right along shipside to get a job done quickly. You can see them hard at work at modern port facilities all over the world. We make ladle cranes that carry molten metal safely overhead in plants. We make tower cranes too.

Unloaders and coal reclaimers. Hitachi unloaders for ores and similar cargo are another time and effort saver at dockside. Our coal reclaimers are complete systems for scooping up coal and transferring it.

Automatic storage systems. Hitachi's automatic storage system bring speed, ease and efficiency to warehousing, while saving labor. Two important parts of these systems are Hitachi's stacker crane and remotely-controlled carrier car for up-and-down in-flow and out-flow of goods in various stages of the production process. Hitachi's automated warehousing systems are also applicable to dockyards, freight yards and container terminals.

Electric hoists. Hitachi is equally efficient in meeting transfer needs which are more exact. Our electric hoists run overhead on rails and have automatic adjustable brakes for improved safety.

Doing a lot of things well. A comprehensive technology transfer program enables the developments of Hitachi research to be shared with each of our divisions. This is basic to every Hitachi product, from systems that handle loads large and small to modern home appliances. And meticulous quality and reliability standards apply across the board — to the raw materials, to each small part, to every component. That's Hitachi, unsurpassed.

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70 years of making technology work for you

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pump as much petroleum as possible from the common reservoir contained beneath his property and that of his neighbors. He realized he had to do this before his neighbors did the same thing to him. This lack of cooperation and coordination resulted in output below the full potential. Ultimately such evident waste led to the creation of mechanisms such as the Texas Railroad Commission, which instituted a more orderly and coordinated extraction procedure. By contrast, because there are no private property holders in the USSR, the Soviets have never had to worry about such uncoordinated drilling. But they have their own unique difficulties. The Soviets also overpump their fields, because of the nature of the Soviet planning system. The Soviet field operator does not compete against his neighbors, he competes against the plan. Since his salary is dependent on fulfilling or overfulfilling his target, he is interested in extracting as much as he can from his field to meet his one-year or five-year plan.

The planning system induces other inappropriate practices. For example, like that of most managers in the USSR, the performance of Soviet geologists is judged by how well they fulfill their quantitative targets—in this instance, meters drilled. The result is predictable. Soviet geologists have become adept at drilling the largest number of meters possible. Unfortunately, that seldom coincides with finding petroleum. Rationally enough, Soviet drillers pick up their drills and move elsewhere the minute that drilling progress begins to slow. But petroleum is not always found near the surface. In one area of Kazakhstan, the most highly paid prospectors were those who found no petroleum.

The Soviet pricing system has also contributed to inefficiency. The wholesale domestic price of Soviet petroleum had not been increased since 1967, and even by 1967 terms, it was underpriced. For example, the Soviets did not make any allowance in their domestic price for the interest cost of the capital involved in the extraction process. Nor did they include most of the geological costs. (They did include depreciation.)

Such serious underpricing has been the source of considerable misallocation of resources. The low wholesale price stimulates industrial consumption. To Soviet managers, petroleum appears a cheap commodity, especially in comparison to scarce labor, whose price has been rising. Therefore, they strive to increase their petroleum allotments. The effect is the same as if

petroleum usage were subsidized. Consequently, industry has tended to be unconcerned with conservation.

Waste was also encouraged by the "val" system, wherein the planner set the manager's targets in terms of the ruble value of the enterprise's gross output. No consideration is given to net output. To win his bonus, the manager sought to produce as high a ruble value output as he could. Since the value of the final output was determined by the sum of all the inputs, Soviet managers soon discovered that one way to increase the value of their gross output was to make sure they utilized very expensive inputs. Again, this was a disincentive to conserve. Inevitably large and usually wasteful quantities of petroleum would be utilized. Similarly, this helps explain why Soviet machinery is unusually heavy, why Soviet engines require more metal per unit of engine power than most other engines in the world, and why the Soviets require more fuel per kilowatt hour of electricity generated or per ton of steel smelted.

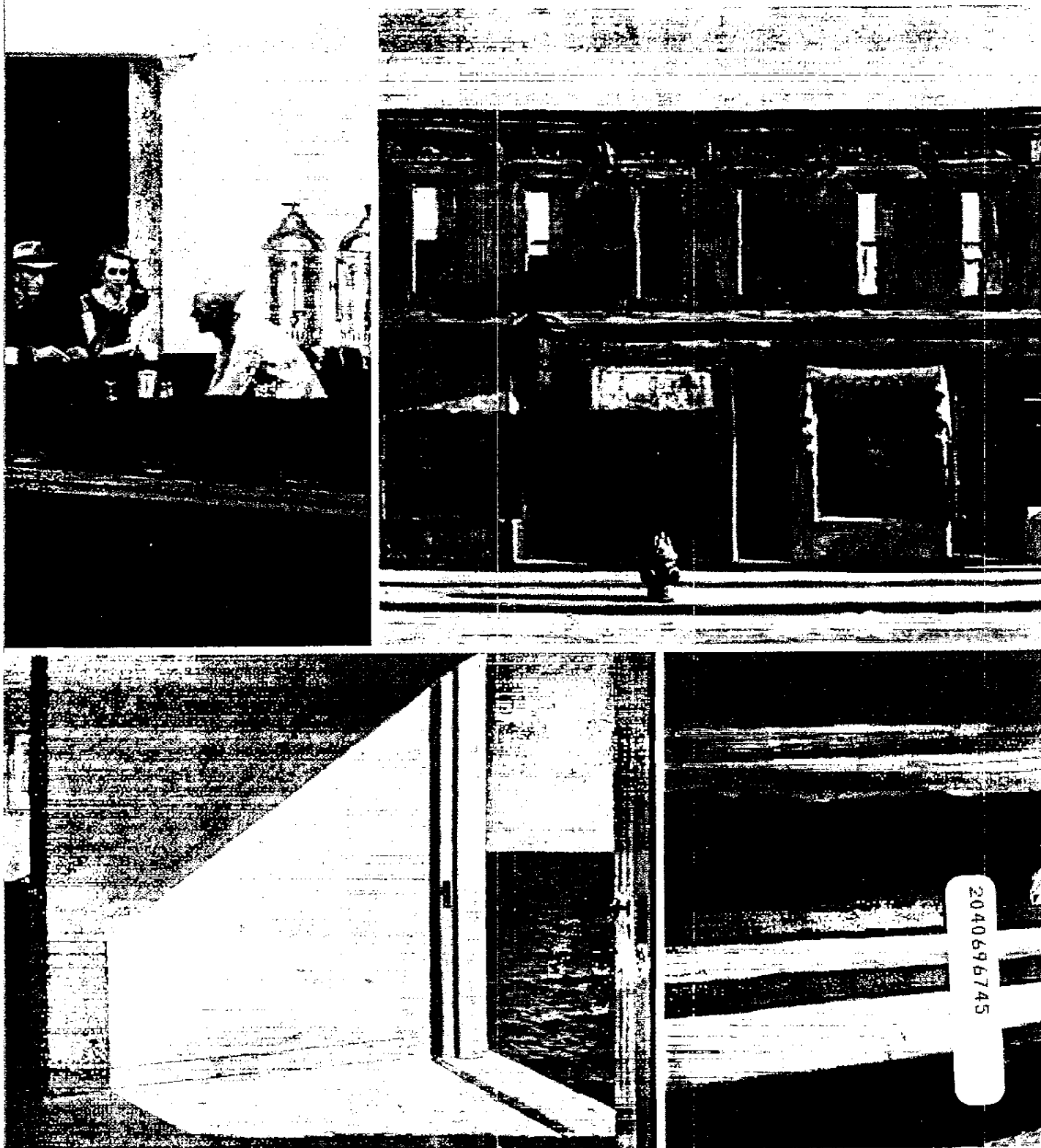
Finally, understated prices made it more difficult to attract the investment and foreign currency funds needed for adequate development of Soviet energy resources. Although Soviet capital resources are normally allocated on the basis of physical allocation specifications rather than on an open market, those allocation authorizations are very much influenced by the profitability record of each enterprise. The profitability record in turn is determined by prices. Thus, the fact that the Soviet wholesale price of energy had been held constant at 1967 levels inevitably meant a fall in the profitability of Soviet energy production enterprises, in several instances even a loss. Moreover, profitability will continue to fall as Soviet geologists find it necessary to push further north and east into increasingly costly, remote, and hostile sites in their search for new energy-producing areas.

Just how important energy price increases are is dramatically reflected by the profit-to-capital ratio of the various energy-producing enterprises. In 1965, before wholesale prices were increased, the profit rate of the petroleum-producing enterprise was 5.4 percent. The comparable rate for the natural gas producer was 9.3 percent. Coal mines were actually operating at losses of 17 percent and required a subsidy. After the 1967 price increases, oil and natural gas profit rates rose to 27.8 percent and 64.5 percent respectively, and coal showed a profit-to-capital ratio of 7.3 percent. By 1978, however, with prices fixed but costs rising, those rates had fallen to 11 percent for petroleum, 17.8 percent for natural gas, and coal was again being produced at a loss of 3.2 percent. If Soviet prices had kept pace with world energy prices, clearly the profit rates would have been much higher.

The continued fall in profit rates since the late 1960s

Marshall I. Goldman is an economist who teaches at Wellesley and Harvard. Versions of this essay will appear in two forthcoming books, *The Enigma of Soviet Petroleum: Half-Full or Half-Empty?* and *Energy and Security*, a report of Harvard's Energy and Security Research Project.

So ordinary, so



extraordinary.

Intermediate

These are the works of a man who looked at the ordinary and saw the extraordinary. They are part of a marvelous and moving exhibition, "Edward Hopper: The Art and the Artist," which opens on September 23rd at the Whitney Museum of American Art to celebrate its 50th anniversary.

He was the poet of the commonplace, of empty streets and gas stations, hotel rooms and restaurants. He loved the bare bones of things because they let the silences speak; and he loved doors and windows because they could let life and light in—or seal us off. He taught us, above all, that every fleeting moment, however ordinary, was charged with extraordinary meaning, pregnant with possibility.

That's one reason we sponsored this exhibition and why we hope you'll see it at the Whitney or one of the other museums listed below. In our business, as in yours, we need to be reminded that the material of greatness is all around us if we have the courage to strip it bare and see its meaning. And that all we need is individual imagination, individual creativeness, individual innovativeness. Sponsorship of art that reminds us of these things is not patronage—it's a business and human necessity.

If your company would like to know more about corporate sponsorship of art, write George Weissman, Chairman of the Board, Philip Morris Incorporated, 100 Park Avenue, New York, N.Y. 10017.

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"Edward Hopper: The Art and the Artist" appears at the Whitney Museum of American Art, New York, NY September 23, 1980 to January 18, 1981; Hayward Gallery, London, England February 11 to March 29, 1981; Stedelijk Museum, Amsterdam, The Netherlands April 22 to June 17, 1981; Städtische Kunsthalle, Düsseldorf, Germany July 10 to September 6, 1981; The Art Institute of Chicago, Chicago, IL October 3 to November 29, 1981; San Francisco Museum of Modern Art, San Francisco, CA December 16, 1981 to February 10, 1982.

This exhibition is sponsored by Philip Morris Incorporated and the National Endowment for the Arts.

(top left) NIGHT-HAWKS (detail), 1942. The Art Institute of Chicago, Friends of American Art (bottom left) ROOMS BY THE SEA, 1951. Yale University Art Gallery, Bequest of Stephen Carlton Clark, S.A. 1903. (top right) EARLY SUNDAY MORNING, 1920. Whitney Museum of American Art. Purchase, 1931. (bottom right) FOUR LANE ROAD, 1952. Private collection.

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when you look at a wood
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We see people working, making useful products.

We see the remnant of a fallen tree.

We see something more: a sign of changing times.

Once by-products like wood shavings were discarded. Today, they're a valuable energy source, an economical alternative to increasingly expensive oil and natural gas.

Today, for example, our 54 wood products and paper mills around the country get better than 50% of the energy they need from products like wood shavings.

And tomorrow that percentage will almost certainly rise.

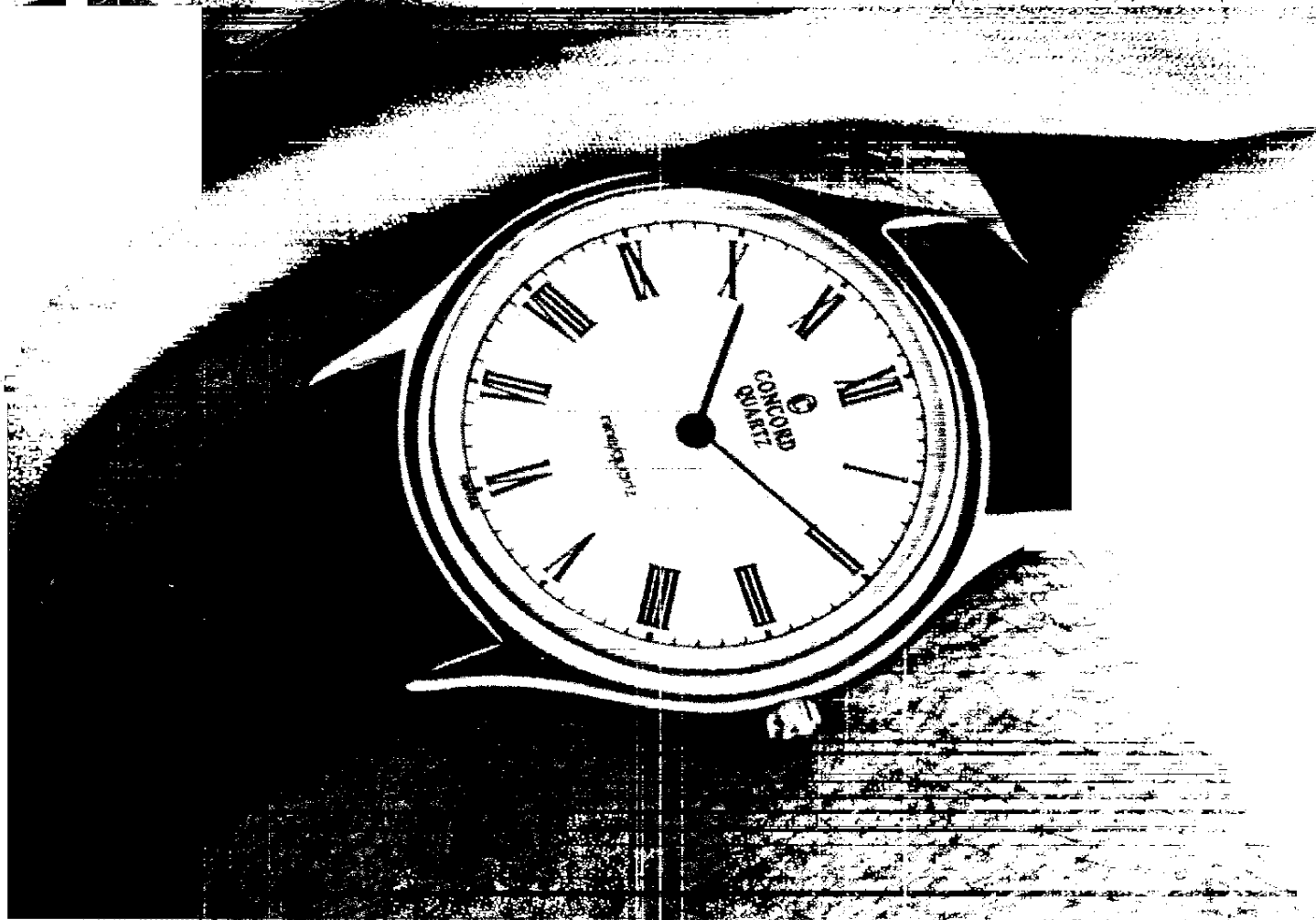
For the more we use, the easier it will be for us to reconcile the services we mentioned above...to provide needed jobs, products,



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Wood products and paper products that grow.

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